

THE DIPTERA OF THE BAHAMAS, WITH NOTES AND DESCRIPTION OF ONE NEW SPECIES.

BY CHARLES W. JOHNSON.

THE following Diptera were mostly collected by Messrs. Thomas Barbour, Glover M. Allen and Owen Bryant during their trip to the Bahamas in the summer of 1904. The specimens from Mangrove Cay, Andros, were collected by Mr. Bryant, who visited the island after Messrs. Barbour and Allen had returned to the United States.

This collection probably represents but a small percentage of the actual number to be found; it is however practically our first knowledge of the dipterous fauna of these islands, as only eight species have previously been recorded. The diptera of the West Indies have been, for the most part, studied somewhat superficially, owing to the limited amount of material that has been collected. The only exception to this is the island of St. Vincent, where Mr. H. H. Smith made a very extensive collection, which has been studied by Professors Williston and Aldrich,¹ who record upwards of 350 species. The combined lists of Roeder² and of Coquillett³ gives 193 species from Porto Rico. The writer in 1894⁴ recorded 115 species from Jamaica, since that time about fifty species have been added to the list. The number of species recorded from Cuba is about 250.

The species previously recorded have also been included, and the following list of over ninety species represent all that are known to occur on the islands up to the present time.

PSYCHODIDAE.

PSYCHODA ALBIPUNCTATA Williston?

One specimen, Mangrove Cay, Andros, Aug. 1. An imperfect specimen, agreeing with the description in having the hair on the thorax brown and the tibiae

¹ On the Diptera of St. Vincent (West Indies). By Professor Samuel Wendel Williston. *Dolichopodidae* and *Phoridae* by Professor J. M. Aldrich. (Trans. Entom. Soc. London, for 1896, pp. 253-446, pls. VIII to XIV.)

² Dipteren von der Insel Portorico, von V. von Röder. (Entom. Zeitung zu Stettin, 1885, pp. 337-349).

³ Report on a Collection of Dipterous Insects from Puerto Rico. By D. W. Coquillett. (Proc. U. S. Nat. Mus., XXII, pp. 249-270, 1900).

⁴ List of the Diptera of Jamaica with description of new species. By Charles W. Johnson (Proc. Acad. Nat. Sci., Phila., 1894, pp. 271-280).

and metatarsi annulated with white tomentum. It is however much smaller, being only a trifle over a millimeter in length. Williston's species was described from Havana, Cuba.

PSYCHODA sp.

Two specimens, Nassau, June 28.

CULICIDAE.

STEGOMYIA CALOPUS (Meigen).

Culex calopus Meig., Syst. Besch., I, 3, 1818.

Culex fasciatus Wied., Auss. Zu. Ins. I, 8, 10, 1828 (*non* Fabricius 1805).

Culex mosquito Desv., Mém. Soc. Hist. Nat. III, 408, 1827.

Numerous specimens, Nassau, June 28.

OCHILEROTATUS TAENIORHYNCHUS (Wiedemann).

Culex taeniorhynchus Wied., Dipt. Exot. 43, 1820.

Two specimens, Mangrove Cay, Andros, Aug. 1.

JANTHINOSOMA COFFINI Dyar and Knab, *J. coffini* D. & K., Proc. Biol. Soc. Wash., XIX, p. 134, 1906.

Nassau, Bahamas, June 22, 1903 (J. H. Coffin).

JANTHINOSOMA PYGMAEA (Theobald).

Grabhamia pygmaea Theob. Mon. Culic., III, p. 245, 1903.

Culex nanus Coq., Can. Ent., XXXV, p. 256, 1903.

"We have placed the types of *nanus* Coquillett from Florida and a large series taken by Dr. Coffin in the Bahamas with *pygmaea* Theobald from Jamaica (*Dyar and Knab*).

WYEOMYIA BAHAMA Dyar and Knab.

Tarpon Bay, Bahamas Island (T. H. Coffin).

AÈDES OBTURBATOR Dyar and Knab.

a. obturbator D. & K., Jour. N. Y. Entom. Soc., XV, p. 9, 1907.

Tarpon Bay, Bahama Islands (J. H. Coffin).

AÈDES PLUTOCRATICUS Dyar and Knab.

"Nassau, Andros, San Salvador, Tarpon Bay, and Powell Point, Bahamas" (J. H. Coffin).

AËDES CONDOLESCENS Dyar and Knab.

“Nassau, June 24, 1903, Andros, San Salvador, Powell Point and Long Island. Bahamas” (J. H. Coffin).

CHIRONOMIDAE.

CERATOPOGON BAHAMENSIS n. sp.

Head black, face and mouth parts yellowish; antennae brown. Thorax with a ground color of dark brown or black, covered with a grayish pollen, showing in certain light three indistinct stripes; pleurae reddish or dark brown, with whitish pollinose; scutellum dark yellow; metanotum black, grayish pollinose. Abdomen black, segments with a narrow posterior margin of light yellow, venter yellow. Legs white, tips of the femora, tibiae and all the joints of the tarsi narrowly banded with black. Halteres yellow. Wings hyaline. Length, 1 mm.

Three specimens, Mangrove Cay, Andros, Aug. 1.

TANYPUS sp.

One specimen, Mangrove Cay, Andros, Aug. 1.

MYCETOPHILIDAE.

SCIARA sp.

Four specimens, Mangrove Cay, Andros, Aug. 1.

STRATIOMYIDAE.

ODONTOMYIA sp.?

A larva “found in a dry pond hole, Mangrove Cay, Andros, Aug. 4” (*Owen Bryant*).

TABANIDAE.

CHRYSOPIS FLAVIDUS Wiedemann.

Two specimens, Strangers Cay, July 14.

TABANUS LINEOLA Fabricius.

Thirteen specimens, Strangers Cay, July 14; Abaco, July 17.

TABANUS sp.

One specimen (σ^7), immature, Abaco, July 17.

BOMBYLIDAE.

HYPERALONIA CERBERUS (Fabricius).

Anthrax cerberus Fabr., Ent. Syst., IV, 256, 1794.

Exoprosopa serveillei Macq., Dipt. Exot., II, pt. 1, p. 124, pl. 16, fig. 3, 1840.

Hyperalonia serveillei Coq., Proc. U. S. Nat. Mus., XXII, 251, 1900; Aldrich Cat'l N. Amer. Dipt. p. 225, 1905.

One specimen, Abaco, July 7. This species has been recorded from Nassau, and from Porto Rico by Mr. D. W. Coquillett. My Jamaica record is based on the *cerberus* as figured by Macquart, not of Fabricius. The relegating of *E. serveillii* to a synonym of *E. cerberus*, does away with a dispute as to the standing of the species, as Macquart did not describe the species, but only figured a wing, with the name on the plate and again on page 124 under — "Explication des figures" Mr. Coquillett concurs with me in the above synonymy.

EXOPROSOPA PARVA Loew.

Six specimens, Nassau, June 28; Abaco, July 6, and Strangers Cay, July 14.

ANTHRAX LATERALIS Say.

Nine specimens, Nassau, June 28; Abaco, July 17; Strangers Cay, July 14, and Mangrove Cay, Abaco, Aug. 4.

ANTHRAX TRIMACULA Walker.

Four specimens Nassau, June 28; Abaco, July 6.

ANTHRAX BIGRADATA Loew.

Eight specimens, Nassau, June 28, Abaco, July 6, Strangers Cay, July 14.

ANTHRAX LUCIFER (Fabricius).

Eight specimens, Nassau, June 28.

PHTHIRIA SULPHUREA Loew.

Three specimens Mangrove Cay, Andros, Aug. 1-4.

GERON SENILIS (Fabricius).

Three specimens Mangrove Cay, Andros, Aug. 1-4.

THEREVIDAE.

PSILOCEPHALA OBSCURA Coquillett.

P. obscura Coq., Can. Ent., XXV, 229, 1893.

One specimen (♂) Strangers Cay, July 14. This species was described from a single female, collected by the writer at Kingston, Jamaica, April, 1891. The male differs from the female in having the abdomen entirely whitish pollinose, with white pile; hypopygium yellow. Length, 5 mm.

ASILIDAE.

PROCTACANTHUS RUFIVENTRIS Macquart.

One specimen, Strangers Cay, July 14.

ERAX RUFITIBIA Macquart.

Three specimens, Stranger's Cay, July 14. The *E. haloesus* Walker from Jamaica seems to be referable to this species.

DOLICHOPODIDAE.

PSILOPODINUS CHRYSOPRASIVS (Walk.).

Four specimens, Nassau, June 28, Mangrove Cay, Andros, Aug. 4.

PSILOPODINUS CAUDATUS (Wied.).

One specimen, Mangrove Cay, Andros, Aug. 1.

CHRYSOTUS BARBATUS Loew.

Numerous specimens, Mangrove Cay, Andros, Aug. 1-4.

CHRYSOTUS PICTICORNIS Loew.

Two specimens, Mangrove Cay, Andros, Aug. 1.

CHRYSOTUS OBLIQUUS Loew?

One specimen, Mangrove Cay, Andros, Aug. 1.

EMPIDIDAE.

DRAPETIS FLAVIDA Williston.

Three specimens, Mangrove Cay, Andros, Aug. 4.

PHORIDAE.

APHIOCHAETA SCALARIS (Loew).

Four specimens, Nassau, June 28.

PIPUNCULIDAE.

PIPUNCULUS SUBVIRESCENS Loew.

Eleven specimens, Nassau June 28, Andros, Aug. 1.

SYRPHIDAE.

MESOGRAMMA ARCIFERA (Loew).

Two specimens, Nassau, June 28; Mangrove Cay, Andros, Aug. 4.

MESOGRAMMA SUBANNULATA (Loew).

Ten specimens, Nassau, June 28.

MESOGRAMMA sp.

One specimen, Abaco, July 7.

BACCHA CLAVATA (Fabricius).

One specimen, Mangrove Cay, Andros, Aug. 1.

OCYPTAMUS FUSCIPENNIS (Say).

Three specimens, Abaco, July 6, and one from Mangrove Cay, Andros, Aug. 1.

VOLUCELLA OBESA (Fabricius).

Four specimens, Nassau, June 28.

VOLUCELLA EUGENIA Williston.

Two specimens, Nassau, June 28, and Abaco, July 6.

ERISTALIS VINETORUM (Fabricius).

One specimen Nassau, June 28.

ERISTALIS ALBIFRONS Wiedemann.

Two specimens, Mangrove Cay, Andros, Aug. 1.

ERISTALIS ATRIMANUS Loew.

One specimen, Mangrove Cay, Andros, Aug. 4.

TACHINIDAE.

EUPHOROCERA CLARIPENNIS (Macquart).

One specimen, Mangrove Cay, Andros, Aug. 1.

STURMIA AUSTRINA Coquillett.

Nassau. Bred from a Pyralid (H. G. Dyar).

STURMIA SUBVARIA (Walker).

Tachina subvaria Walker, Insecta Saund. Dipt., p. 299, 1856.

One specimen, Abaco, July 6.

GONIA PALLENS Wiedemann.

One specimen, Nassau, June 28.

EXORISTA sp.

One specimen, Mangrove Cay, Andros, Aug. 1.

DEXIIDAE.

MELANOPHORA RORALIS (Linné).

One specimen, Mangrove Cay, Andros, Aug. 4.

SARCOPHAGIDAE.

PECKIA PLUMIPES Desvoidy.

Two specimens (♂ ♀) Mangrove Cay, Andros, Aug. 4.

SARCOPHAGA INCERTA Walker.

Numerous specimens, Mangrove Cay, Andros, Aug. 1-4.

SARCOPHAGA DIVERSIPES Coquillett.

Four specimens Mangrove Cay, Andros, Aug. 4. These agree quite well with the description; there is a tendency for the anterior femora to be entirely black, and the yellow on the tip of the abdomen, to encroach upon the fourth segment. It was described from Porto Rico.

SARCOPHAGA HELICIS Townsend.

Helicobia helicis Coquillett, Proc. Acad. Nat. Sci. Phila., p. 317, 1895.

Numerous specimens, Nassau, June 28, Mangrove Cay, Andros, Aug. 1-4. In the present unsettled state of the Sarcophagidae it seems best to retain it in this genus.

SARCOPHAGA RUFIPALPIS Macquart.

S. rufipalpis Macq., Dipt. Exot., II, pt. 3, p. 102, 1843.

Eleven specimens, Nassau, June 28, and Mangrove Cay, Andros, Aug. 1-4.

The males agree in every respect with the description, and seem to be readily distinguished in having the *palpi yellowish, face and front silvery white pruinose*, the second and extreme base of the third joint of the antennae reddish, the posterior border of the fourth segment and the genitalia reddish and the *posterior tibiae with a wide fringe of long hairs*. In the females the palpi is somewhat darker in most of the specimen, and the fourth segment of the abdomen entirely red. They vary in length from 10 to 13 mm. The species was described from Brazil, and has been reported from Curaçao.

SARCOPHAGA sp.

Two specimens, Mangrove Cay, Andros, Aug. 1. This species closely resembles *S. rufipalpis* Macq., but the posterior tibiae has not the fringe of long hairs.

SARCOPHAGA sp.

A small species (5 to 6 mm.) from Mangrove Cay, Andros, Aug. 1. It cannot be readily determined in the present unsatisfactory condition of many of the species of this difficult genus.

SARCOPHAGULA IMBECILLA Van der Wulp.

S. imbecilla v. d. Wulp, Biol. Cent. Amer., II, p. 289, 1896.

Numerous specimens, Abaco, July 6, Mangrove Cay, Andros, Aug. 1-4. I also have specimens before me from Kingston, Jamaica (C. W. Johnson). Havana, Cuba (C. F. Baker) and Biscayne Bay, Florida (Mrs. A. T. Slosson).

The frontal stripe varies from black to reddish brown, or black with the lower portion reddish, as the bristles on the third longitudinal vein are present in all the specimens, those with the "reddish frontal band" cannot be referred to *S. tenuis* v. d. Wulp, also described from Mexico. The specimens vary in length from 3 to 4.5 mm.

SAROTHROMYIA FEMORALIS (Schiner).

Sarcophila femoralis Schiner, Novara, Dipt., 315, 1868.

Three specimens, Mangrove Cay, Andros, Aug. 1. I also have specimens from St. Augustine, Florida (C. W. Johnson): Lake Worth, Florida (Mrs. A. T. Slosson): Port Antonio, Jamaica (Johnson).

MUSCIDAE.

CHRYSOMYIA MACELLARIA (Fabricius).

Two specimens, Nassau, June 28. Widely distributed throughout North and

South America, and commonly referred to as the "screw-worm," and the *Comptosia macellaria* of many authors. Over twenty-five specific names have been applied to this species.

MUSCA DOMESTICA Linné.

Two specimens, Mangrove Cay, Abaco, Aug. 1. The House-fly, cosmopolitan.

STOMOXYS CALCITRANS (Linné).

Two specimens Nassau, June 28. The Cattle-fly, also cosmopolitan.

ANTHOMYIDAE.

COENOSIA OVATA Steiu.

Two specimens, Mangrove Cay, Andros, Aug. 1.

HOMALOMYIA FEMORATA Loew.

One specimen Nassau, June 28.

BORBORIDAE.

LIMOSINA ILLOTA (Williston).

Borborus illotus Will., Trans. Ent. Soc. London, 1896, p. 434, pl. 14, fig. 164.

One specimen, Mangrove Cay, Andros, Aug. 1.

SAPROMYZIDAE.

SAPROMYZA CINCTA Loew.

Numerous specimens. Nassau, June 28; Mangrove Cay, Andros, Aug. 1.

SAPROMYZA GRATA Wiedemann.

S. grata Wied., Auss. Zw. Ins., II. 456, 1830. Brazil.

Eight specimens, Nassau, June 28; Mangrove Cay, Andros, Aug. 1-4. Distinguished from *S. octopunctata* Wied (*S. ingrata* Will.), in having the two round, deep black spots on the scutellum at the base of the apical bristle, and not on the sides between the bristles.

LONCHAEA RUFITARSIS Macquart.

Four specimens, Nassau, June 28. Apparently a widely distributed species, (New Hampshire to Mexico). With the limited material before me it is difficult to define the many described species, some of which are very closely related or identical.

ORTALIDEA.

EUXESTA ABDOMINALIS Loew.

Four specimens, Nassau, June 28.

EUXESTA ANNONAE (Fabricius).

Three specimens, Mangrove Cay, Andros, Aug. 1.

TRYPETIDAE.

ACIURA INSECTA (Loew).

One specimen, Mangrove Cay, Andros, Aug. 1.

ENSINA PICCIOLA (Bigot).

Acinia picciola Bigot, in Sagra's, Cuba, VII, 842. Tab. XX, fig. 10, 1857.

Trypeta humilis Loew, Mon. N. A. Dipt., I, 81, 1862.

Numerous specimens, Mangrove Cay, Andros, Aug. 1-4. Common throughout the Greater Antilles, Bermuda, Florida, Colorado and Mexico. According to the present rules of nomenclature, I do not see how Bigot's name can be set aside. Loew acknowledges that the synonymy is not doubtful, for he says:—"Through the kindness of Mr. Gundlach, I have been put in possession of numerous typical specimens." An objection to the name cannot be considered a valid reason for placing it in the synonymy.

EUARESTA MELANOGASTER (Loew).

One specimen, Nassau, June 28.

EUARESTA BELLA (Loew).

Four specimens Nassau, June 28; Mangrove Cay, Andros, Aug. 1.

SEPSIDAE.

SEPSIS INSULARIS Williston.

Three specimens, Nassau, June 28.

EPHYDRIDAE.

PSILOPA ACICULATA Loew.

Seven specimens, Nassau, June 28.

PSILOPA CAERULEIVENTRIS Loew.

One specimen, Nassau, July 28.

PSILOPA NIGRIMANUS Williston.

Four specimens, Nassau, June 28.

DISCOCERINA sp.?

Two specimens, Mangrove Cay, Andros, Aug. 1.

OSCINIDAE.

HIPPELATES FLAVIPES Loew.

Numerous specimens, Nassau, June 28; Mangrove Cay, Andros, Aug. 1-4.

HIPPELATES PUSIO Loew.

Numerous specimens, Mangrove Cay, Andros, Aug. 1-4.

HIPPELATES PLEBEIUS Loew.

Six specimens, Nassau, June 28; Mangrove Cay, Andros, Aug. 1-4.

HIPPELATES PROBOSCIDEUS Williston.

Five specimens, Nassau, June 28.

HIPPELATES STRAMINEUS (Loew).

Three specimens, Nassau, June 28.

OSCINIS COXENDIX Fitch.

Four specimens, Mangrove Cay, Andros, Aug. 1-4.

DROSOPHILIDAE.

DROSOPHILA AMPELOPHILA Loew.

Numerous specimens, Nassau, June 28; Mangrove Cay, Andros, Aug. 1-4. The common "pomae fly," originally described from Cuba, it has become almost cosmopolitan.

DROSOPHILA PUNCTULATA Loew.

Two specimens, Nassau, June 28.

GEOMYZIDAE.

SPILOCHIROA ORNATA (Johnson).

Heterochroa ornata Johns., Proc. Acad. Nat. Sci. Phila., 1895, p. 306.

Peratochaetus ornatus Czerny, Wien, Ent. Zeit., XXII, 97, 1903.

Spilochroa ornata Williston, Journ. N. Y. Ent. Soc. XV, 2, 1907.

Three specimens, Nassau, June 28; Mangrove Cay, Andros, Aug. 1. This species was described from a single specimen collected at Drayton Island, Lake George, Florida, May 9, 1894. Mrs. Annie T. Slosson has recently taken a specimen at Belleair, Fla. Dr. Williston has made this species the type of a new genus *Spilochroa*.

AGROMYZIDAE.

AGROMYZA AENEIVENTRIS Fallen.

Three specimens, Nassau, June 28.

AGROMYZA JUCUNDA van der Wulp.

Four specimens, Nassau, June 28.

AGROMYZA MELAMPYGA Loew.

Four specimens, Nassau, June 28.

AGROMYZA sp.

One specimen, Mangrove Cay, Andros, Aug. 4.

CACOXENUS sp.?

Two specimens, Mangrove Cay, Andros, Aug. 1.

HIPPOBOSCIDAE.

PSEUDOLFERSIA SPINIFERA (Leach).

Four specimens were obtained from the Cormorant (*Phalacrocorax floridanus*) on Great Sale Cay, July 17, and a single specimen from a Booby (*Sula sula*) off Mangrove Cay, Andros, July 29. They vary somewhat in size, those from the cormorant being from 6 to 8 mm. in length, while the one from the booby is only 5 mm. A widely distributed species more frequently found on the frigate-bird (*Fregata aquilla*).

STREBLIDAE.

TRICHOBIUS PARASITICUS Gervais.

T. parasiticus Gervais, Atlas de Zool., p. 14, 1844.

T. dugesii Towns., Ent. News, II, 106, 1891.

Several specimens were collected on bats (*Phyllonycteris planifrons*) taken in a cave at Hurricane Hole, Abaco, July 22. The species has been recorded from Porto Rico, Jamaica, Arizona and Mexico. In Mexico it was taken on *Glossophaga soricina*.